

REMARKS

Applicants appreciate the consideration of the present application afforded by the Examiner. Claims 1-4, 6, 7, 10-21, 23-26, and 33-36 were pending prior to the Office Action. Claims 37-46 have been added through this Reply. Therefore, claims 1-4, 6, 7, 10-21, 23-26, and 33-46 are pending. Claims 1, 10, 11, 12, 16, 18, 19, 20, 25, 26, and 33 are independent. Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

Objection to the Specification

The title is objected to by the Examiner as allegedly being not descriptive. *See Office Action, page 2.* Applicants respectfully traverse the objection. However, in the interest of expeditious prosecution, the title has been amended to address this objection. Applicants respectfully request that the objection to the specification be withdrawn.

Claim Rejections - 35 U.S.C. §101

Claims 20-21, 23-26, and 33-36 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicants traverse the rejection.

Applicants have amended the specification to remove any perceived reference to a non-tangible signal as being within the scope of the language “an image data recording medium” as presented in the claims at issue. Specifically, through this Reply Applicants have removed a reference to “transmission media” in paragraph [0224] which, based on the Examiner’s comments (*see Office Action, page 3*), appears to be the basis for the § 101 rejection.

Applicants note that paragraph [0224] of the specification states, as amended, “[w]hen a moving picture is broadcast via a satellite, a ground wave, the Internet, or the like, a viewer may start reception or viewing from somewhere during the broadcast or may switch a channel. ...” and further describes the contents of the data being broadcast. However, neither this recitation nor the specification as a whole supports an interpretation that Applicants consider this broadcast to be “an image recording medium” as recited in the claims.

The question is not whether the data originally recorded on a recording medium is capable of being broadcast, but whether the specification supports an interpretation that the limitation of “an image recording medium” found in the claim language is enabled as encompassing a non-tangible signal. Applicants respectfully submit that the specification in no way states that Applicants consider “an image recording medium” to be a broadcast transmission or a non-tangible signal of any form. Indeed, the specification only describes that data recorded in an image recording medium is capable of being broadcast. This is not the same as stating that Applicants consider such a broadcast to be “an image recording medium” and within the scope of the claim. Hypothetically speaking, if a mere recitation in a specification that data stored on a recording medium is *capable* of being transmitted via satellite, or the Internet (or by any wireless broadcast medium for that matter) calls into question the scope of a limitation in the claims of a “recording medium,” Applicants submit that any patent application claiming a storage or recording medium and discussing the wireless transmission of stored data in the specification (such as television patents, cellphone patents, wi-fi patents, GPS patents, etc.) would likewise be called into question under § 101, regardless of whether or not the specifications of such patents expressly recite that the recording media limitations are meant to encompass non-tangible signals. Clearly, § 101 is not meant to be so applied unless there is a definitive statement or at least a reasonable basis for construing that Applicants consider non-tangible signals to be within the scope of a particular claim limitation.

Applicants note, *arguendo*, that the instant specification in no way states anything to the effect of “an image recording medium may be a hard drive, portable flash memory, CD-ROM, *carrier wave, satellite transmission*, etc.” or anything comparably interpreted as indicating that Applicants consider an image recording medium to encompass a non-tangible transmission media.

Based on the foregoing, Applicants respectfully request that the §101 rejection of claims 20-21, 23-26, and 33-36 be withdrawn.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1-3, 6, 7, 12, 14-16, 20, 23, 24, and 33-36 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,765,568 to Swift (“Swift”) in view of U.S. Patent No. 6,023,277 to Osaka et al. (“Osaka”); claims 4, 13, 17, and 21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Swift and Osaka, and further in view of U.S. Patent No. 5,581,625 to Connell (“Connell”) and U.S. Patent No. 6,496,598 to Harman (“Harman”); claims 10, 18, and 25 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Swift and Osaka and further in view of U.S. Patent No. 6,233,004 to Tanaka et al. (“Tanaka”); claims 11, 19, and 26 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Swift and Osaka, and further in view of U.S. Patent No. 6,005,607 to Uomori et al. (“Uomori”). Applicants submit the Examiner has failed to establish a *prima facie* case of obviousness and traverse the rejections.

For a 35 U.S.C. § 103 rejection to be proper, a *prima facie* case of obviousness must be established. *See M.P.E.P. 2142*. One requirement to establish *prima facie* case of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. *See M.P.E.P. 2142; M.P.E.P. 706.02(j)*. Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

Regarding independent claims 1, 12, 16, 20, and 33:

Claim 1 recites an image generation apparatus comprising, *inter alia*, “reception means for receiving a parameter for displaying three-dimensional image data, said parameter including information data indicating one of a plurality of predetermined camera arrangements of a plurality of cameras which has picked up said three-dimensional image data, said one of a plurality of camera arrangements describing a placement of said plurality of cameras relative to each other during image pickup, and at least one of information data indicating a method of generating three-dimensional image data from data of the picked up image and information data for controlling presentation of said three-dimensional image data.”

Applicants respectfully submit that neither Swift nor Osaka, alone or in combination, render obvious at least the aforementioned limitation of independent claim 1.

Swift is directed towards an electronic stereoscopic media delivery system which provides a file format for stereoscopic media with right and left channels and allows for automatic and manual optimization adjustments of the three-dimensional image for various display formats on the user side. *See Abstract, Figure 1, and col. 3, lines 23-54.*

Swift indicates that, “[s]ince the format of the original left and right [sources] is known, as designated by the tag within the Stereoscopic 3D Media file, the scaling can be done while preserving stereo” (*col. 3, lines 47-50, emphasis added*). The Examiner has relied on this “tag” as a received parameter for displaying three-dimensional image data. *See Office Action, page 4.* However, Applicants submit that this tag cannot obviate a parameter which includes “information data indicating one of a plurality of predetermined camera arrangements of a plurality of cameras which has picked up said three-dimensional image data,” as recited in claim 1. For instance, the “tag” is only described by Swift as indicating the format of the original left and right sources for purposes of scaling to various display devices. This is not the same as indicating one of a plurality of predetermined camera arrangements of the cameras used to pick up the three-dimensional data. No mention of the arrangement of the cameras is to be found in Swift.

Although, *arguendo*, it may be possible to allege that the presence of a left and right channel indicates a camera arrangement, this is not expressly disclosed by Swift, and in fact Swift goes on to describe a method by which stereoscopic left and right images may be acquired using a *single* camera, in which no camera arrangement of a plurality of cameras may be inferred. *See col. 9, line 53 – col. 10, line 5.* Additionally, even were the presence of a right and left channel to be a least suggestive of a camera arrangement, which Applicants do not necessarily concede in context of the instant application, the presence of a right and left channel is not a *parameter including information data indicating one of a plurality of predetermined camera arrangements*.

Again, Swift only mentions that the disclosed “tag” indicated the format of the original left and right image sources, not one of a plurality of predetermined camera arrangements of the cameras used to pick up the three-dimensional data.

In this instance, the combination of Swift and Osaka fails to teach or suggest each and every limitation of claim 1. As demonstrated above, Swift fails to teach or suggest at least “information data indicating one of a plurality of predetermined camera arrangements of a plurality of cameras which has picked up said three-dimensional image data, said one of a plurality of camera arrangements describing a placement of said plurality of cameras relative to each other during image pickup” as recited in claim 1. Osaka has not been, and indeed cannot be, relied upon to correct at least this deficiency of Swift. Claims 12, 16, and 20 also recite limitations comparable to the feature described above with respect to independent claim 1. Applicants respectfully submit that claims 12, 16, 20, and 33 are likewise distinguishable from Swift in view of Osaka at least for the same rationale presented above with respect to independent claim 1. Additionally, dependent claims 2-4, 6, 7, 13-15, 17, 21, 23, 24, and 34-36 are also distinguishable from the prior art at least due to their dependence from claims 1, 12, 16, and 20, directly or indirectly.

Therefore, Applicants submit that claims 1-4, 6, 7, 12-15, 16, 17, 20, 21, 23, 24, and 34-36 are patentable over Swift in view of Osaka and respectfully request that the rejection of said claims under §103(a) be withdrawn.

Further regarding claim 7: Applicants traverse the Examiner's rejection of claim 7 on the basis that neither the Swift nor Osaka references teach or suggest a file extension which indicates which of a *plurality of different three-dimensional display methods* is used to display said three-dimensional image data. The Examiner cites Osaka, col. 17, lines 26-41, which recites that a file extension may be used to indicate whether the file has three-dimensional image data. However, this is not the same as having a file extension indicate which of a plurality of different three-dimensional display methods is used to display the data. Accordingly, Applicants submit that claim 7 is patentable over the combination of Swift and Osaka and respectfully request that the rejection of claim 7 under §103(a) be withdrawn.

Regarding independent claims 10, 18, and 25:

Independent claim 10 recites an image data generation apparatus, comprising:
a file generation unit for generating a multimedia information file including both of image pick-up condition information indicating an image pick-up condition for a three-

dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein header control information is added thereto, and wherein said both of image pick-up condition and three-dimensional image data, or at least two-dimensional image data are encoded in a parameter that is stored in said multimedia file, and wherein said image pick-up condition information includes at least one of information indicating a number of parallaxes in a horizontal direction and information indicating a number of parallaxes in a direction perpendicular thereto.

The Examiner concedes that Swift in view of Osaka fails to teach or suggest the emphasized features of claim 10, above, and alleges that the Tanaka reference cures this deficiency. *See Office Action, page 24.* However, Tanaka merely recites that four cameras may be arranged in the horizontal and vertical directions to acquire data from multiple viewpoints (*see, e.g., Figure 2*).

Applicants note that the Swift reference is silent regarding encoding a parameter and storing said parameter into a multimedia file, wherein the parameter includes image pick-up condition information regarding a number of parallaxes used in the three-dimensional image data. At best, as previously discussed with respect to claim 1 above, Swift discloses a “tag” which indicates the “format” of the original left and right images such that proper scaling may be achieved at the user’s display end. Swift does not teach or suggest including information in a parameter regarding any number of viewpoints other than the inherent left and right channel. In addition, the Tanaka reference likewise does not teach including information encoded in a parameter of a multimedia file. Tanaka merely discloses that multiple cameras may be used to acquire multiple images. At best, one of ordinary skill in the art would perhaps be motivated to modify Swift such that multiple cameras are used to acquire the three-dimensional image data, However, one of ordinary skill in the art would not have sufficient rationale to modify Swift to encode a parameter indicating the number of parallaxes in a first direction and/or a second direction into the multimedia file.

Accordingly, Applicants respectfully submit that claim 10 is distinguishable from the combination of Swift, Osaka, and Tanaka. Independent claims 18 and 25 recite at least features comparable to that discussed with respect to claim 10 above, and are distinguishable from the applied art for at least the same reasons as presented with respect to claim 10. Accordingly,

Applicants submit that claims 10, 18, and 25 are patentable over the applied art and respectfully request that the rejection of said claims under §103(a) be withdrawn.

Regarding claims 11, 19 and 26:

Independent claim 11 recites an image generation apparatus comprising, *inter alia*, the limitation “wherein said image pick-up condition information includes at least one of information indicating one of a plurality of predetermined camera arrangement shapes formed by a plurality of cameras which has picked up said three-dimensional image data, information indicating an interval between adjacent cameras of the plurality of cameras which has picked up said three-dimensional image data, and information indicating a distance from a camera arrangement plane formed by the plurality of cameras which has picked up said three-dimensional image data to a convergence point formed by the view axes of said plurality of cameras.”

Applicants submit that the applied art cannot teach or suggest at least the aforementioned features of the claims.

As previously discussed with respect to claim 1, the “tag” disclosed by Swift is only described as indicating the format of the original left and right sources for purposes of scaling to various display devices. This is not the same as indicating one of a plurality of predetermined camera arrangements of the cameras used to pick up the three-dimensional data. No mention of the arrangement of the cameras is to be found in Swift. Neither Osaka nor Uomori have been relied upon to cure this deficiency of Swift. Therefore, the applied art cannot teach, alone or in combination, “information indicating one of a plurality of predetermined camera arrangement shapes formed by a plurality of cameras which has picked up said three-dimensional image data” as recited in claim 11.

Additionally, the applied art cannot teach, alone or in combination, including image pick-up condition information including “information indicating an interval between adjacent cameras of the plurality of cameras which has picked up said three-dimensional image data.” The Examiner alleges that Swift discloses interpolating images to simulate various camera separations (*see Swift, col. 10, lines 52-65*). However, this is not the same as encoding a parameter into a multimedia file which includes information regarding the interval between

adjacent cameras of the plurality of cameras which acquired the three-dimensional image data. Again, according to the features of the present invention, actual information regarding the camera interval is encoded into the multimedia file. There is nothing in the cited reference to suggest that such information is included in the file of Swift. The only mention of any information which may be potentially considered as an encoded parameter is the recitation of a "tag" which indicates the format of the left and right sources. There is no disclosure that this tag in any way includes information regarding the interval between adjacent cameras of the plurality of cameras which acquired the image data.

Finally, the Examiner supplies the Uomori reference to allegedly teach information indicating a distance from a camera arrangement plane formed by the plurality of cameras which have picked up said three-dimensional image data to a convergence point formed by the view axes of said plurality of cameras. However, Uomori merely recites a method for generating stereoscopic computer graphics images (CGI) in which an effective range for a viewer to achieve binocular fusion (i.e., stereoscopic vision) is calculated based upon camera parameters in a virtual space. Uomori fails to teach or suggest that information regarding a distance to a convergence point formed by the view axes of a plurality of cameras which picked-up three-dimensional image data is encoded as a parameter and included in a multimedia file. Again, the "tag" disclosed by the Swift reference merely indicates the format of the original left and right images. One of ordinary skill in the art would not have had sufficient rationale by which to modify the tag described by Swift to include information indicating a distance from a camera arrangement plane formed by the plurality of cameras which have picked up said three-dimensional image data to a convergence point formed by the view axes of said plurality of cameras.

Accordingly, Applicants submit that the applied art cannot teach or suggest all of the limitations of claim 11. Claims 19 and 26 recite at least features comparable to those discussed above with respect to claim 11 and are submitted to be allowable at least based on comparable rationale as presented above. Applicants submit that claims 11, 19, and 26 are patentable over the applied art and respectfully request that the rejection of said claims under §103(a) be withdrawn.

New Claims

New claims 37-46 have been added through this Amendment, and are considered to be in condition for allowance at least due to their dependence upon independent claims 1, 12, 16, 20, and 33. No new matter has been entered.

CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Notice of same is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John R. Sanders Reg. No. 60,166 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

#40,439

By 

Michael R. Cammarata
Registration No.: 39,491
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant